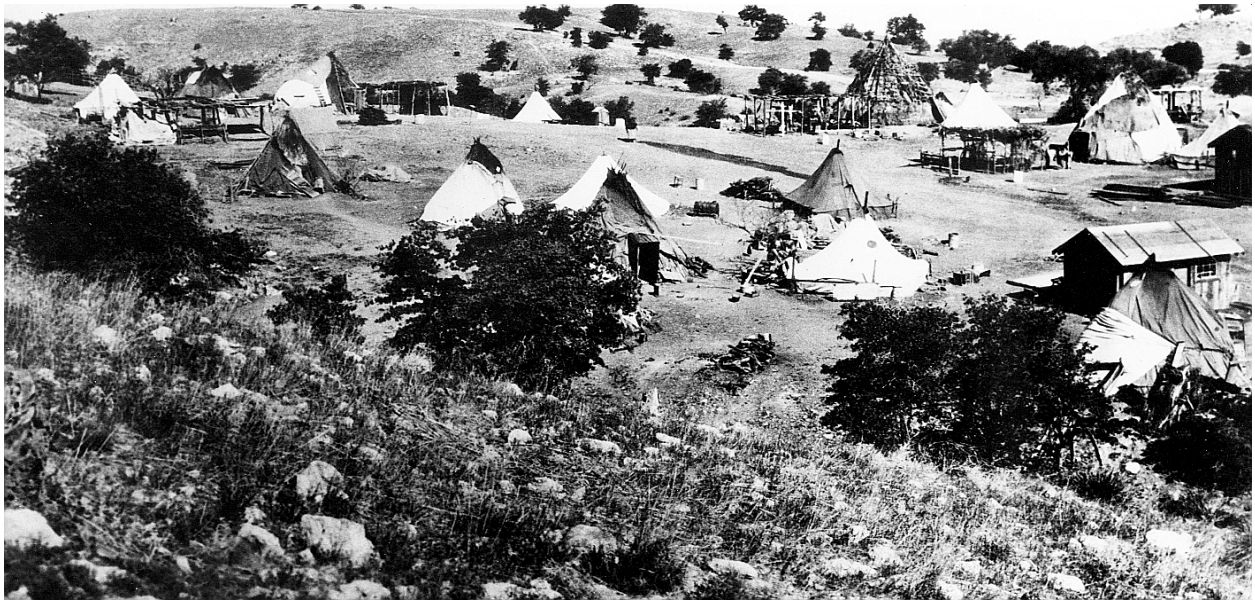


PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Implementation of Integrated Cultural Resources Management Plan FORT HUACHUCA, AZ



AUGUST 2002

**Directorate of Installation Support
US Army Garrison, Fort Huachuca, Arizona**

HOW THIS ENVIRONMENTAL ASSESSMENT IS ORGANIZED

The FINDING OF NO SIGNIFICANT IMPACT briefly describes the Proposed Action and alternatives. Direct and indirect impacts are summarized and compared, and cumulative inputs are briefly described. The conclusions from the analysis are also stated

SECTION 1 INTRODUCTION discusses the purpose and need for the Proposed Action, the regulatory background surrounding this project, and the scope of this Environmental Assessment.

SECTION 2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES discusses the proposed action and alternatives addressed in this environmental assessment.

SECTION 3 AFFECTED ENVIRONMENT describes the existing environment within the region of influence.

SECTION 4 ENVIRONMENTAL CONSEQUENCES provides a comparison of environmental consequences associated with the proposed action alternatives. Mitigation measures are also addressed in this section.

SECTION 5 FINDINGS AND CONCLUSIONS provides a summary of anticipated environmental impacts.

SECTION 6 LIST OF PREPARERS

SECTION 7 REFERENCES provides bibliographical information for sources cited in the text of this Environmental Assessment.

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
Implementation of
Integrated Cultural Resources Management Plan
FORT HUACHUCA, AZ

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AUGUST 2002

ENVIRONMENTAL ASSESSMENT
Implementation of Integrated Cultural Resources Management Plan
FORT HUACHUCA, AZ

LEAD AGENCY: Department of the Army

TITLE OF THE PROPOSED ACTION: Implementation of Integrated Cultural Resources Management Plan, Fort Huachuca, AZ

AFFECTED JURISDICTION: Cochise County, Arizona

PREPARED BY: Directorate of Installation Support, US Army Garrison, Fort Huachuca

REVIEWED BY: Commander, US Army Garrison, Fort Huachuca

APPROVED BY: Commander, US Army Intelligence Center & Fort Huachuca

ABSTRACT: This EA documents the outcome of the analysis for the proposed implementation of a of the Fort Huachuca Integrated Cultural Resource Management Plans (ICRMPs). These plans are for internal Army compliance and management. They integrate the entirety of the installation cultural resources program with ongoing mission activities, allow for ready identification of potential conflicts between the installation's mission and cultural resources, and identify compliance actions necessary to maintain the availability of mission-essential properties and acreage. This ICRMP is the installation commander's decision document for cultural resources management actions and for specific cultural resources compliance procedures on Ft. Huachuca. Because these potential alterations may affect historically significant structures, Army Regulation 200-2 (32CFR 651), Environmental Effects of Army Actions, requires that an Environmental Assessment be completed.

The Proposed Action is to implement the Integrated Cultural Resources Management Plan, as the update to previous CRMP. Details of proposed management actions are within the ICRMP document and are incorporated by reference. The ICRIMP is based upon regulatory requirements; preferences of the 11 affiliated tribes of Native People, and the best available scientific information at the time of plan development. Two alternatives to full revision of the CRMP were considered in the preparation of the ICRMP. The No-Action alternative was considered, and would consist of continuing to operate using the 1997 CRMP. The implementation of the proposed action will result in no significant environmental impact, direct, indirect, cumulative or otherwise, on Fort Huachuca or in the region. Activities associated with the action may result in a small, temporary increase in fugitive dust, solid waste generation, and daytime noise. These will be limited to the life of the specific site, and will impact only a small area on the fort.

REVIEW COMMENT DEADLINE: Public comments must be received within 30 days from the publishing date of this document. This document is available for review at the Sierra Vista and Fort Huachuca Libraries. It is also available by e-mail from: dis-enrd@hua.army.mil or by regular mail at the address below, or by leaving a message with the title of the PEA, your name and address at 520-533-3120. Comments may be sent to: USAIC&FH; ATTN: ATZS-ISB (ICRMPPEA); Fort Huachuca, AZ 85650, or may be faxed to (520) 533-3043.

1.0 PURPOSE, NEED, AND SCOPE

1.1 Purpose and Need

Integrated Cultural Resource Management Plans (ICRMPs) are internal Army compliance and management plans. They integrate the entirety of the installation cultural resources program with ongoing mission activities, allow for ready identification of potential conflicts between the installation's mission and cultural resources, and identify compliance actions necessary to maintain the availability of mission-essential properties and acreage.

This ICRMP is the installation commander's decision document for cultural resources management actions and for specific cultural resources compliance procedures on Ft. Huachuca. ICRMPs supersede and replace Historic Preservation Plans (HPP) prepared under AR 420-40 (AR 200-4 (4-1a)) and are required by Army Regulation (AR) 200-4 and Department of Defense Instruction (DoDI) 4715.3. This ICRMP is written based on a five-year cycle, and is a component of the installation master plan. The five-year cycle for this ICRMP is 2003-2007.

Cultural resources are buildings, structures, sites, districts, and objects that are eligible or included on the National Register of Historic Places. A Cultural Resources Manager (CRM), in accordance with AR 200-4, provides day-to-day management for cultural resources; helps ensure that all installation activities are in compliance with applicable cultural resources requirements and serves as a liaison between all persons involved in the ICRMP.

US Army activities at Fort Huachuca, AZ, have a long history. Founded in 1877, the first permanent structures were built in the 1880's in what is now called "the Old Post". The Old Post was designated as a National Historic Landmark District in 1974. Prior to 1877, Native People (Native Americans), occupied the area for at least 10,000 years. Evidence of this occupation is found in 328 recorded archeological sites. Approximately 66% of the installation has been surveyed, and finding more cultural resources is expected in the future. These cultural resources require management under a variety of Federal regulations, including Executive Orders.

1.2 Scope

This Programmatic Environmental Assessment (PEA) analyzes the proposed implementation of an Integrated Cultural Resources Management Plan (ICRMP), which prescribes the way Fort Huachuca manages its historic properties. This plan would supercede a 1997 Cultural Resources Management Plan (CRMP) under which Fort Huachuca has managed its historic properties since that date. This management is regulated by the National Historic Preservation Act (36 CFR 800), the Archeological Resources Protection Act (ARPA), and other laws. These and other laws and memoranda direct Fort Huachuca to consult with the Arizona State Historic Preservation Officer (SHPO) and tribes of Native People.

Fort Huachuca's testing and training missions have the possibility of affecting regulated historic properties. Because the implementation of this ICRMP may potentially affect historic properties, Army Regulation 200-2 (32 CFR 651), Environmental Effects of Army Actions, requires that an Environmental Assessment be completed. This PEA was prepared in compliance with the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 U.S.C. 4321-4347, as

amended), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), and AR 200-2 (32 CFR 651), Environmental Effects of Army Actions (USA 2002). NEPA requires that agencies of the federal government implement an environmental impact analysis program in order to evaluate whether their proposed action constitutes a "...major federal action significantly affecting the quality of the human environment." A "major federal action" may include projects financed, assisted, conducted, regulated, or approved by a federal agency that have the potential to significantly affect the human environment. AR 200-2 implements the NEPA process for Army commands and installations.

As will be described within this document, neither the environmental impacts of this action nor their cumulative effects are anticipated to be significant. Environmental impacts of the various categories of activities will be briefly addressed. Other impacts, primarily from the mitigation of inadvertently discovered sites that may be present on the installation, are addressed. Mitigation measures and other preferred practices are detailed in the ICRMP, or were detailed in the previous CRMP, and are incorporated by reference into this document. Cumulative environmental impact is not anticipated to be significant, as the project is primarily within the cantonment area, and is not anticipated to increase energy and water use on the installation. Because no significant impacts are expected, an Environmental Impact Statement (EIS) is not required under NEPA.

1.3 Public Involvement

Past scoping sessions for other environmental analyses have indicated consistent concerns from both pro-growth and environmentally-concerned groups and individuals. The issues raised include those from local residents who are concerned about their continued employment related to Fort Huachuca as part of the local economic base. Other individuals and groups were concerned about the impact of groundwater pumping on the local aquifer, and the possible indirect effects of pumping on the San Pedro River and its threatened and endangered species. These issues will be addressed in the "Environmental Consequences" section, which includes cumulative impacts, of this PEA.

1.4 Impact Analysis Performed

Environmental impacts at Fort Huachuca associated with the proposed program were identified and assessed by an interdisciplinary team, and are reflected in this document. Environmental impacts from the potential mitigation of asbestos and lead paint, which may be present in the adobe structures, was previously assessed in an Environmental Assessment (EA) titled "Rehabilitation of Temporary WWII Structures at Fort Huachuca, Arizona," and was available for public comment in October 1993. The EA resulted in a Finding of No Significant Impact (FNSI). The impacts of maintenance and repair of Historic Adobe Structures was analyzed and documented in the "Programmatic Environmental Assessment, Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ," which completed a public comment period in March, 2002. This PEA incorporates these previous EA's and FNSI's by reference. Impacts included in these documents will not be further discussed in this PEA.

The unique existing conditions that apply to this PEA at Fort Huachuca are briefly described in Section 3.0, “Affected Environment.” General information on the baseline conditions at Fort Huachuca may be found in the ICRMP, or in previous environmental and other technical documents that may be reviewed upon request at the Environmental and Natural Resources Division at Fort Huachuca, AZ.

An interdisciplinary team of planners, scientists, engineers, archeologists, and military technicians analyzed the proposed action against existing conditions and identified the relevant beneficial and adverse effects associated with the action. The effects are briefly described in Section 4.0, “Environmental and Socioeconomic Consequences.”



Figure 1. Map of Arizona, showing Fort Huachuca location.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

The ICRMP improves protocols for managing historic properties on Fort Huachuca. By integrating the probable impacts of the military mission with the cultural resources management program, we anticipate fewer inadvertent discoveries, and better management and understanding of those few disturbed sites. The ICRMP is a more dynamic document than the CRMP, which was not prepared in the context of the overall military missions of the installation, and is more flexible to accommodate changing mission requirements. The ICRMP stresses identification and preservation of historic properties and provides a framework for determining their significance. Consultation with Native People and the SHPO provides consideration of all potential effects on these properties and enables an informed decision of treatment within existing regulations and mission requirements. In the process of developing the ICRMP, several alternatives for the management of cultural resources were considered. These, along with the Proposed Action are described below.

2.2 Proposed Action

The Proposed Action is to implement the Integrated Cultural Resources Management Plan, as the update to previous CRMP. Details of proposed management actions are within the ICRMP document and are incorporated by reference. The ICRMP is based upon regulatory requirements, preferences of the 11 affiliated tribes of Native People, and the best available scientific information at the time of plan development. The major improvements represented by the ICRMP include:

1. ICRMP is integrated with Installation Master Plan.
2. ICRMP more closely related to Native People concerns.
3. ICRMP identifies and recommends a management plan with internal protocols and research domains for managing historic properties.
4. ICRMP integrates the Military Landscape perspective in planning level surveys.
5. ICRMP includes economic analyses and public involvement plan.

2.3 Alternatives to the Proposed Action

Two alternatives to the proposed action were considered in the preparation of the ICRMP. They are listed here, but are not discussed in Chapter 4 of the PEA, because neither fulfills the regulatory requirements for the completion of the ICRMP. Additionally, other management methods were considered for some aspect of the program in development of the ICRMP. These individual alternatives will not be discussed, as they were eliminated from further consideration during the development process because they did not meet the spirit or intent of the regulations, or they were cost prohibitive.

2.3.1 Alternative 1 to the Proposed Action

Alternative 1 to the proposed action is to partially implement the ICRMP. This would result in picking and choosing among chapters and procedures with some rationale, based on available resources and the cultural properties involved, such as implement Chapters a, b, c, but Chapters e, f, g, only if funds permit.

2.3.2 Alternative 2 to the Proposed Action

Alternative 2 to the proposed action is *ad hoc* management of cultural resources. Each situation involving cultural resources would be handled as a discrete event, as resources allow. There would be no update to the CRMP, and the existing CRMP would not necessarily be used as a guide.

2.4 The No-Action Alternative

The No Action alternative would consist of continuing to operate using the 1997 CRMP. The CRMP would not be updated to an ICRMP in accordance with DA guidance.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Environmentally, Fort Huachuca is unique in many ways with respect to its geology, water resources, climate, cultural resources, and its mountain, desert and riparian ecosystems. An understanding of these interrelated factors is a prerequisite to evaluating the total environmental impact of the action. The brief description of the specific media in the affected environment are included as reference points for the potential impacts information in Chapter 4. Detailed descriptions of Fort Huachuca's environment and specific media areas may be found in the following EA's which are incorporated by reference: Which ones are they?

3.2 Setting and Location

Fort Huachuca is located in Cochise County in southeastern Arizona. The installation is south-southeast of Tucson, and approximately 30 miles south of Interstate 10. The installation is located in a classic basin and range topographic setting. The installation extends from an altitude of over 8,600 in the Huachuca Mountains down to near 4,000 feet adjacent to the San Pedro River. The 5,000 acre cantonment area lies between elevations of 4,400 and 5,200 feet.

3.3 Climate

The climate of Cochise County is moderated by both land elevation and the physical characteristics of the Basin and Range topography. The average high summer temperature is 88° F. The daily mean maximum temperature for the warmest month, June, is 91° F. Temperatures above 100° F do occur. The average winter low temperature is 32° F. Average winter daytime high temperatures in the basins vary between 55° and 60° F. However, temperatures below freezing do occur a few days a year between November and February. Cochise County receives 12 to 30 inches of rainfall yearly, which is elevation dependent, with more rainfall at higher altitudes. This precipitation is seasonal and distributed somewhat unevenly over the area. The summer "Monsoon" rainy season is from July through September and account for up to 65 percent of the annual rainfall in the region. Winter storms typically occur in December through February. About 25 percent of the annual precipitation in the vicinity of Fort Huachuca is derived from winter storms. Although the seasonal rainfall patterns are well established, the amount of actual precipitation is highly variable from year to year.

3.4 Land Use

The Fort Huachuca military reservation is comprised of over 73,000 acres. The majority of administrative, residential and operational functions are in facilities within the 5,000 acre cantonment area. Training areas comprise 67,000 acres of the installation. The installation is divided by Arizona State Highway 90 into an East Reservation (28,544 acres) and a West Reservation (44,728 acres).

The 5,000 acre built-up part of Fort Huachuca consists of the Libby Army Air Field and of the cantonment area. Each occupies approximately 2,500 acres. The Libby Army Airfield is located along the northern boundary of the cantonment area, is capable of receiving all aircraft in the Department of Defense inventory, and is an alternate site for emergency landing of the Space Shuttle. The airfield is also used by the City of Sierra Vista under a joint-use agreement, with

separate civilian facilities. Civilian facilities are accessed via Arizona State Highway 90.

The cantonment area is the equivalent of a small town. All of the normal features of a town are included, such as drinking water and wastewater treatment facilities and systems, recreational facilities, shopping areas, office space, other light industrial activity facilities and residential areas. Total square footage of the approximately 2,000 structures within the cantonment area is approximately 8 million square feet. The 'Old Post' National Historic Landmark District is also within the cantonment.

3.5 Air Quality

Cochise County is in the Southeast Arizona Intrastate Air Quality Control Region, which also includes Graham, Greenlee, and Santa Cruz counties. Most of Cochise County, including the Fort Huachuca-Sierra Vista area, has been designated as an attainment area for routinely meeting the established air quality standards

3.6 Noise

The principal noise sources at Fort Huachuca include vehicle traffic, flight operations at Libby Army Airfield, and military weapons training operations. Noise levels from these activities at Fort Huachuca, Sierra Vista, and Huachuca City in the USBP were studied in detail as part of the Fort Huachuca Installation Compatibility Use Zone (ICUZ) survey conducted in 1992. The ICUZ noise study clearly showed that the noise impact from both automobile traffic and the flight operations of the Libby Army Airfield/Sierra Vista Municipal Airport was minimal and in compliance with the suggested Environmental Protection Agency (EPA) and DOD criteria for noise sensitive areas.

3.7 Water Resources

The Arizona Department of Water Resources (ADWR) has divided the Upper San Pedro Basin (USBP), into three subwatersheds from the Mexican Border to just north of the City of Benson. These divisions are intended to better define and manage the available water resources within the Basin. The Sierra Vista Subwatershed contains Fort Huachuca, the City of Sierra Vista, and most of the San Pedro Riparian National Conservation Area. This subwatershed is bounded by the Mexican Border to the south, the Mule Mountains on the east, the Huachuca and Mustang Mountains on the west and Arizona State Highway 82 on the north.

3.8 Geology and Soils

3.8.1 Geology

Fort Huachuca is located along the western edge of the USBP in southwestern Cochise County. This region lies in the Mexican Highland Section of the Basin and Range Physiographic Province that extends through the southwestern United States and into the Mexican states of Sonora and Chihuahua. The topography of the USBP is characterized by several northwest-southeast trending mountain ranges separated by a wide alluvium filled basin. The portion of the Basin occupied by Fort Huachuca is bounded on the west by the Huachuca Mountains. These mountains are composed of ancient quartz monzonites and granites that are overlain by a sequence of carbonate and clastic units, volcanics, conglomerates, and limestones. Several

episodes of structural deformation are evident in the Huachuca Mountains. The most prominent of these include thrust faulting, related folding, and extensional faulting. Fort Huachuca contains three broad topographic zones: mountains, alluvial fans, and a broad bajada formed from the coalescence of several alluvial fans. The alluvial fans south of the Babocomari River Valley within the West Range are dissected by three major drainages: Blacktail Canyon, Slaughterhouse Canyon and Huachuca Canyon. All of these drainages are intermittent, flowing in response to local rainfall. The floodplain alluvium overlying the upper basin fill in the USBP is composed of highly permeable unconsolidated gravel, sand, and silt. Although limited in extent, the alluvium seems to play an important role in sustaining the flow of the Upper San Pedro River.

3.8.2 Soils

Soils on Fort Huachuca's northward sloping terrain consist of alluvium that was deposited in the area during the Pleistocene. This soil consists of a brown sandy loam derived from granite, limestone, and volcanic rock. Other predominant soil types on the fort are prone to erosion and gully formation with the removal of protective vegetative cover. These shallow, corrosive soils are characterized by rapid runoff, moderate to severe erosion, and rock fragments.

3.9 Cultural Resources

3.9.1 Properties Inventory

By law, cultural resources are defined as those which are afforded special legal status due to their historic value or their reflection of a specific ethnic culture. Legal status is established through such laws as the National Historic Preservation Act, The North American Graves Protection and Repatriation Act, the Archeological Resources Protection Act, the American Indian Religious Freedom Act, 36 CFR 79, and Executive Order 13007.

The USBP contains evidence of thousands of years of human habitation. Archeological sites spanning over 12,000 years abound in the region. Numerous excavation sites document the extent and characteristics of these past cultures located in both the Upper San Pedro River Valley and on Fort Huachuca. Three Clovis mammoth kill sites have been found and excavated within 30 miles of the fort.

As of 2001, prehistoric and historic archeological sites have been recorded on 48,443 surveyed acres of Fort Huachuca (66% of the installation has been surveyed). Of the 328 sites, 234 are prehistoric sites, 39 are historic, and 55 are both prehistoric and historic. Historic considerations include associations of structures or locations with the Apache Scouts and Buffalo Soldiers. A comprehensive description and data base for these sites is contained in the 1997 draft *Cultural Resources Management Plan (CRMP) for Fort Huachuca Military Reservation Arizona*. An Integrated Cultural Resources Management Plan (ICRMP) is being finalized at this time and will provide guidelines for managing these properties.

Three prehistoric archeological sites on the fort are currently listed on the National Register of Historic Places (NRHP). The first of these is the Garden Canyon Village Site located at the mouth of the canyon, and contains a major Hohokam village complex. The other two sites are

the Garden Canyon and Rappelling Cliffs Pictograph Sites located in the upper reaches of the canyon. Seven other cultural sites on the fort have been evaluated as eligible for inclusion in the NRHP and 227 are listed as potentially eligible. The preservation and protection of these cultural sites is mandated by the National Historical Preservation Act of 1966, as amended, the Archeological and Historic Preservation Act of 1974, and Army Regulations 200-4, "Cultural Resources Management."

3.9.2 Historic Property

Fort Huachuca is also the oldest active installation in the western United States. Historic buildings include several restored and preserved stone, adobe, and frame construction buildings dating to the 1880's. The "Old Post" historic district of Fort Huachuca's cantonment area was placed on the National Register of Historic Places (NRHP) in 1974, listed as a National Historic Landmark (NHL) in 1976, and revised 1977. Twenty-six primary buildings dating from 1880 to 1920 were listed within the original NHL boundaries, and 48 within the revised 1977 boundaries. In 1989 an architectural and historical evaluation of 115 pre-1940 structures within and adjacent to the NHL was performed ("Fort Huachuca, An Evaluation of Architectural/Historic Resources", Jackson Research Projects, 1989). The study concluded that 12 additional structures within the NHL were contributing elements and should be nominated for inclusion on the NHL and the NRHP, and research needed to be accomplished on an additional 9 structures in order to determine their eligibility for listing on the NRHP.

Additional architectural studies conducted within and adjacent to the NHL that are relevant to the proposed action include: (1) "Study/Survey of Historically Significant Army Family Housing Quarters", Mariani & Associates, 1990; (2) "Structural Evaluation of Chimneys and Buildings at Fort Huachuca", Statistical Research, Inc., 1997); (3) "National Register of Historic Places Registration Form for Stone Quarters and Garage/Warrant Officers' Quarters, Fort Huachuca" Jackson Research Projects, 1993; (4) "National Register of Historic Places Registration Form for Fort Huachuca Historic District", Jackson Research Projects, 1993. These documents are incorporated by reference as part of the baseline for this document. The Environmental and Natural Resources Division, Directorate of Installation Support, has requested funding for a buildings inventory and evaluation study addressing all pre-1946 structures on Fort Huachuca that have not been previously inventoried.

3.9.3 Programmatic Agreements

Currently, Fort Huachuca has one programmatic agreement with the Arizona SHPO. The 2001 Memorandum of Agreement on Army Family Housing at Fort Huachuca among the DOD, the National Conference of State Historical Preservation Officers, the Advisory Council, and the Arizona SHPO concerns demolition and replacement of 1950's through 1970's vintage army family housing. Another programmatic agreement (PA), along with possible multiple Memoranda of Agreement (MOA), are currently under negotiation between the Arizona SHPO and Fort Huachuca, and concern the proposed action. No completion dates have been set.

3.9.4 Section 106 Coordination

The proposed action, implementation of the ICRMP, has the potential to affect permanent, register-eligible properties at Fort Huachuca. It will be necessary to conduct Section 106 consultations with the SHPO before renovation. The MOA and possible PA(s) mentioned above are the desired outcome of the negotiations on the proposed action.

3.10 Sociological Environment

The population of Cochise County was approximately 117,755 according to the 2000 census. The City of Sierra Vista population, which includes Fort Huachuca, was 37,775.

3.10.1 Environmental Justice

Executive Order (EO) No. 12898, February 1994, covers the need for federal agencies to conduct their programs, policies and activities to ensure that minority and economically disadvantaged populations are not discriminated against by federal actions which might have adverse environmental effects. The ethnic diversity within Cochise County population is comprised of 5 % African American, 2 % Asian and Pacific Islanders, 1 % Native American, 12 % other, and the remaining 80 % as unspecified white/Caucasian. Approximately 31 % of the population distributed among the various race identifiers, are also of Hispanic origin.

The ethnic diversity within the City of Sierra Vista population is comprised of 16% Hispanic, 11% African American, 4% Asian and Pacific Islanders, 1% Native American, 6% other, and the remainder as unspecified white/Caucasian. Census data also indicates that none of the neighborhoods adjacent to, or within 1 mile of, the fort have populations with a majority (>50%) of either non-white or low-income residents. Is this true?

3.10.2 Transboundary Impacts

The southern boundary of Fort Huachuca is located approximately 8 miles north of the U.S.-Mexico international boundary. Naco, Arizona is the nearest border crossing and is an approximate 25-mile drive from the fort via Arizona Highway 92.

3.11 Economic Development

In fiscal year 2001, Fort Huachuca employed 9,017 military, civilian, and contract employees. An additional 2,658 equivalent full-time military students were present on a temporary duty basis to attend Military Intelligence and Unmanned Aerial Vehicle training at Fort Huachuca. Total expenditures in Cochise County by various activities at Fort Huachuca were approximately \$480.1 million in FY00, including \$199.4 million in purchases/contracts in Cochise County. The salary dollar component of the \$480.1 million is approximately \$275 million in gross pay, which is not corrected for the payroll deductions that do not arrive in the county.

Sierra Vista, the major population center in Cochise County, and Huachuca City adjacent to the northern boundary of Fort Huachuca, are primarily residential and light industrial communities. These cities provide services to Fort Huachuca, community residents, local industry, Mexican shoppers, and a transient population who winter in the area. Some commercial ranching remains in the Sierra Vista subwatershed of the USBP.

4.0 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES

The potential environmental impact of the implementing the ICRMP alternatives will be addressed in this section. The potential impact of the action alone is described in Sections 4.1 and 4.2. The cumulative impact of this action in a regional context is described in Section 4.4, and primarily addresses issues identified as areas of public concern.

Recent scoping for other NEPA actions in the Fort Huachuca area has consistently identified three issues of concern. Those include the potential impact of army actions on the economic base, both from the perspective of individuals concerned about their employment and from the perspective of those who assert that the installation directly or indirectly stimulates growth in the region. Another concern is the use of groundwater for industrial and domestic use at Fort Huachuca and the potential impact that may have on the flow of the San Pedro River. The last concern identified from scoping is related to the concern over the flow levels in the San Pedro River and the indirect impact any change in water use at the fort may have on habitat and wildlife, including threatened and endangered species.

4.1 Environmental Consequences

As indicated in the introduction to this document, the proposed action will not result in a gain of personnel authorizations or an increase in water use at Fort Huachuca. Two alternatives were analyzed. These were the Proposed Action and the No-Action Alternative. The other two alternatives listed in Chapter 2 did not meet the intent of the regulation, and are therefore not reasonable alternatives and were not analyzed. For many of the analysis areas below, both the Preferred Action and the No-Action alternative will have similar or identical impacts due to the NO-Action being defined as continuing to manage under the CRMP..

4.1.2 Climate

Changes to real property from either the PA or the No-Action alternative are not sufficient to generate changes in the local climate. No mitigation is required.

4.1.3 Land Use

Proposed Action (PA): The preferred action, if implemented, will not have a significant impact on current land use. Some local, future land use on the installation may be restricted if significant cultural resources are discovered. No mitigation is required at this time, and the ICRMP details when and what type of mitigation may be needed in the future, or a process to determine the mitigation.

No-Action Alternative: Not implementing the PA will have a similar impact on land use. No mitigation would be required.

4.1.4 Air Quality

Proposed Action: the impact on air quality will be negligible. As indicated in Section 3, Cochise County is an air quality attainment area. This alternative will not bring major sources of emissions into the region. A slight, temporary increase in fugitive dust and exhaust from

surveys, rehabilitation or site mitigation work will be experienced. Dust will be suppressed during construction if necessary. Because Fort Huachuca is within an air quality attainment area, and no new major sources of emissions will begin operation at Fort Huachuca as a result of this action, the impact of this action was determined to be *de minimis* under the Clean Air Act. No additional mitigation is required.

No-Action Alternative: Air quality on the fort would remain the same. No mitigation would be required.

4.1.4 Noise

Proposed Action: The proposed action would cause a minor, temporary increase in noise during the normal business hours during construction operations. However, this alternative will not introduce new or remove existing significant sources of noise. No mitigation is required.

No-Action Alternative: Noise impacts on the fort would remain as they are currently. No mitigation would be required.

4.1.5 Water Resources

Proposed Action: Implementation of the proposed action will result in negligible impact on water resources. The some projects may reduce water demand through repair or elimination of antiquated, possibly leaky, infrastructure; elimination of more water intensive permanent fixtures; and the replacement of evaporative coolers with air conditioning. Some may require minor dust suppression that would use water. Overall, a very small net positive impact on water resources is anticipated. For these reasons, no significant impact is anticipated on the regional water resources over the life of the ICRMP.

No-Action Alternative: Implementing this alternative may allow the water use in the NHLD to increase as infrastructure fails due to reduced maintenance.

4.1.5.3 Waste Water and Water Reclamation

Proposed Action: For the Proposed Action, a minor decrease in potable water system loss may result from repair and rehabilitation projects. Repair projects may also result in some decrease in sewer system water loss may result in a minor increase in wastewater being delivered to the WWTP. No mitigation is required.

No-Action Alternative: Implementing this alternative may allow the recovery of reclaimable water in the NHLD to decrease as infrastructure fails due to reduced maintenance.

4.1.6 Geology and Soils

Proposed Action: No underground construction, quarrying, or deep excavation is planned in the PA. Some minor excavation may be necessary to mitigate sites where cultural materials are inadvertently discovered. No changes to the regional or local geology or soils are anticipated as a result of this action.

No-Action Alternative: this alternative may result in more inadvertent discovery of cultural materials, more excavation and more disturbance of geologic and soil resources. No significant impact to soil resources are anticipated, however mitigation may be required, depending on the specific instance.

4.1.7 Infrastructure

4.1.7.1 Drinking/Potable Water

Proposed Action/No-Action Alternative: No liberation of hazardous substances or pollutants into surface water or groundwater is anticipated from either the PA or the No-Action alternative. No injection of substances into the groundwater is anticipated from the proposed action. No impact on the quality of potable water is anticipated as a result of the PA. No mitigation is required.

4.1.7.2 Waste Water Treatment

No change to the treatment methods and no significant change in the amount of wastewater treated are expected as a result of the PA or the No-Action. No mitigation is required.

4.1.7.3 Solid Waste Disposal and Landfills

Proposed Action/ No-Action Alternative: For the Proposed Action or No-Action Alternative, a slight increase in generation of solid waste is anticipated as a result of the rehabilitation of buildings. An average annual generation of approximately 5 tons of additional debris is anticipated from this project. The debris will be disposed in landfills ADEQ approved for the type of solid waste generated. No significant impact on solid waste disposal or to local landfills is anticipated as a result of the proposed action. No mitigation is required.

4.1.7.4 Transportation and Traffic

Proposed Action/ No-Action Alternative: For both the PA and the No-Action alternative, no significant impact on the local traffic patterns or levels of congestion are anticipated. Occasional temporary impediments to traffic in the historic landmark district may be anticipated during non-commute hours as debris is removed from major repair jobs. No major increases in traffic, or significant changes in the current traffic patterns on Fort Huachuca are anticipated.

4.1.7.5 Energy Resources and Conservation

Proposed Action/No-Action Alternative: No significant impact on the availability or consumption of energy is anticipated as a result of implementing the PA or the No-Action alternative. No mitigation is required.

4.1.7.7 Hazardous Materials and Wastes

Hazardous Materials

Proposed Action/ No-Action Alternative: For the PA and the No-Action alternative, the minor occasional use of operational materials, such as vehicle or heavy equipment fuel, is anticipated to have no significant impact on the human or natural environment. No significant increase in the potential for a reportable spill is anticipated. No mitigation is required.

Hazardous Wastes

Proposed Action/No-Action Alternative: Little or no hazardous waste generation is anticipated from the PA or the No-Action Alternative. Testing of materials from the adobe structures will occur prior to procedures that may liberate lead. However, abatement in all structures at Fort Huachuca, including the historic adobes, has been ongoing for over a decade. Few procedures in adobe repair and maintenance, or in field excavation and mitigation, generate hazardous waste. As a result, no significant increase in hazardous waste generation or in the potential for a reportable spill are anticipated from this alternative. Additionally, no changes to the Installation's Hazardous Waste Management Plan are required as a result of this action. No mitigation is required

Other Regulated Wastes--Asbestos Abatement

Proposed Action/ No-Action Alternative: Buildings scheduled for rehabilitation will have asbestos removed in preparation for the rehabilitation work. Removal and disposal will be in compliance with existing federal and state regulations. Materials will be disposed of in an ADEQ approved landfill. All personnel involved in the removal of asbestos will be fully certified and protected according to the OSHA requirements and the installation's Asbestos Management Plan.

No mitigation would be required

4.1.8 Biological Resources and Ecosystems

Proposed Action/No-Action Alternative: Neither are anticipated to cause significant impacts to biological resources or ecosystems either on or nearby Fort Huachuca. This action is not anticipated to have significant impact on major habitat areas. Operational impacts of the PA will occur within existing structures located primarily in the cantonment area, or in the bahada??? in the training areas, away from most sensitive species or their habitats. Agave plants will be protected in the event a site mitigation requires ground disturbance. No mitigation would be required

4.1.8.1 Fort Huachuca Vegetation, not including Endangered Species

Proposed Action/ No-Action Alternative: No significant environmental impact on currently undeveloped or undisturbed grasslands, vegetation, or forests is anticipated from this proposed action or the no action alternative. No mitigation would be required

4.1.8.2 Wildlife

Proposed Action/No-Action Alternative: No significant impact on wildlife, habitat, or forage at Fort Huachuca is anticipated from implementation of this either the PA or no-action alternative. No mitigation is required.

4.1.9 Threatened, Endangered, and Candidate Sensitive Plant and Wildlife Species

Proposed Action/ No-Action Alternative: For the PA and the No-Action alternative, no effect to threatened, endangered, and candidate sensitive plant and wildlife species is anticipated.

4.1.10 Cultural Resources

Proposed Action: The ICRMP concept was devised to produce plans that will meet regulatory requirements to minimize or eliminate significant impacts to cultural resources. Therefore, no significant impact on cultural resources would be anticipated from implementing the ICRMP. Need to cite what some of the differences are.

No-Action Alternative: The CRMP lacks some of the areas of resource management that are included in the ICRMP, therefore failure to implement the ICRMP may result in significant impact to cultural resources. The no-action alternative would potentially adversely affect Cultural Resources on Fort Huachuca because.

1. It is not closely integrated with Installation Master Plan.
2. It does not include consideration of Native People concerns.
3. The management plan internal protocols and research domains for managing historic properties lack integration with regional plans and local mission requirements.
4. Lacks economic analyses and public involvement plan.

4.2 Socioeconomic Consequences

Regional and Local Economy

Proposed Action: The estimated value of the rehabilitation work over the life of the plan is less than \$15 million. Much of this funding will go toward materials and skill training for current fort maintenance workers. The Fort's existing contractor will do the work with existing personnel who have been adequately trained, or by Arizona Archeology Society trained volunteers, or by Native People in cooperation with Fort Huachuca. Therefore, little of the funding will enter the local economy as an increase over the existing salary base, other than for some materials available locally. Overall, salaries and expenditures are anticipated to change in a negligible way as a result of this action.

No-Action Alternative: For the no-action alternative, no measurable change to the regional and local economy is anticipated.

Environmental Justice

Executive Order 12898 requires federal actions to be assessed to determine whether the action will cause any disproportionate impact on minority or low income communities surrounding the facility where the action will occur. This action is wholly contained in existing built-up areas on the fort, at least one quarter mile from the nearest installation boundary. This action will not produce a significant increase in air emissions or hazardous waste. Solid waste will not be transported through or disposed of in minority or low income communities. The minimal daytime noise generated by rehabilitation operations will not be audible off the installation. No impact on local minority and low income communities is anticipated. No mitigation is required.

Transboundary Impacts

No significant environmental impact from this project is anticipated, therefore no significant transboundary impacts are anticipated.

4.3 Summary of Mitigation and Preventive Measures

Mitigation for this action will be on a site specific basis and in accordance with agreements with the State Historic Preservation Office or agreements with the affiliated Native People.

4.4 Cumulative Impacts

This section of the environmental assessment looks at the impacts of the action in the context of current and foreseeable future actions and trends on the installation and in the region of influence. The cumulative impacts analysis will focus on the impacts to cultural resources in the region. Other cumulative impacts from this project are anticipated to be negligible. This project is not

anticipated to result in hiring additional personnel or the movement of new personnel into the area. Therefore, this action is not anticipated to contribute to regional growth of the local population.

Implementation of the ICRMP will provide a framework to identify and preserve more cultural properties than on properties, including private properties, that are not comprehensively managed. Within the subwatershed, approximately 60% of cultural resources are likely to be on federally managed land, while the remainder are on either private or state land. The private lands have no mandate for management of cultural resources. Contributors to protection of cultural resources on federal land include grazing and general watershed management practices, restrictions on investigative excavation, cooperation with Native People, and other regulatory requirements. Management of 114 square miles on Fort Huachuca under the ICRMP will contribute in a positive way to the overall preservation of cultural properties in southeastern Arizona. In particular, the information derived from surveys and cultural resource management at Fort Huachuca is being integrated into a larger effort to better understand the life and evolution of pre-European cultures along the San Pedro and Gila River corridors.

As was indicated previously in this document, the anticipated decrease in water use from the action is small, while other efforts to reduce water use and to increase recharge continue. No impact on vegetation, habitat or river flow in the context of cumulative groundwater use are anticipated from this action, and therefore no effect on threatened or endangered species or their critical habitat in the SPRNCA are anticipated from this action. Efforts to reduce any potential future impact from Fort Huachuca's water use will continue regardless of this action.

The cultural resources off-post are extensive along the San Pedro river and relate directly to Native People occupation at Fort Huachuca, Mexico, and the Gila river. This larger area is being studied in-depth at the present time and the ICRMP enables Fort Huachuca information to be included in this regional framework.

5.0 FINDINGS AND CONCLUSIONS

The implementation of the ICRMP will result in no significant environmental impact, direct, indirect, cumulative or otherwise, on Fort Huachuca or in the region. Although activities associated with the action may result in a small, temporary increase in fugitive dust, solid waste generation, and daytime noise, these will be limited to the life of the specific project, and will impact only a small area on the Fort at one time. The small economic benefit associated with site specific work is also temporary.

A very small to negligible net reduction in water withdrawal from the local aquifer is anticipated from the action. An annual energy reduction in electricity and natural gas usage should also result from the proposed action. This action will not increase the cumulative impacts to the regional water budget. Cumulative impacts on air quality will be a small and temporary due to the nature of the proposed action. No significant long-term change in noise generation is anticipated by this action or other known actions within the region. The minor short-term impacts on the local population from the proposed action in the context of cumulative regional economic trends are not significant.

Implementation of the ICRMP will provide a framework to identify and preserve more cultural properties than on properties, including private properties, that are not comprehensively managed. Management of 114 square miles under the ICRMP will contribute in a positive way to the overall preservation of cultural properties in southeastern Arizona. In particular, the information derived from surveys and cultural resource management at Fort Huachuca is being integrated into a larger effort to better understand the life and evolution of pre-European cultures along the San Pedro and Gila River corridors.

In conclusion, the proposed action has been analyzed in this document and has been determined not to constitute a major federal action significantly affecting the quality of the human environment. Thus, an Environmental Impact Statement will not be prepared. Additionally, the action is not anticipated to have environmental significance in the context of cumulative regional trends and impacts.

6.0 PREPARERS AND CONTRIBUTORS

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